APPENDIX A

SENATE BILL 318 TEXT

SB 318 Air pollution: rice straw burning.
BILL NUMBER: SB 318 CHAPTERED 10/07/97

BILL TEXT

CHAPTER 745
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INTRODUCED BY Senators Thompson and Costa
(Coauthors: Assembly Members Cardoza, Machado, Olberg, Papan, Richter, and Woods)

FEBRUARY 11, 1997

An act to amend Sections 41865, 44535, and 44537.5 of, and to add Chapter 4.5 (commencing with Section 39750) to Part 2 of Division 26 of, the Health and Safety Code, relating to air pollution.

LEGISLATIVE COUNSEL'S DIGEST

SB 318, M. Thompson. Air pollution: rice straw burning.

(1) Existing law, the Connelly-Areias-Chandler Rice Straw Burning Reduction Act of 1991, limits the burning of rice straw in the Sacramento Valley Air Basin to prescribed percentages of the acres planted annually through 1999, and prescribes conditions and procedures for the issuance of conditional rice straw burning permits after 1999. A violation of the act is a misdemeanor.

This bill would instead specify the number of acres that may be burned in specified spring months and in specified fall months through 2000, and would revise the conditions and procedures that apply after 2000, as specified, thereby creating a state-mandated local program by changing the definition of a crime and by imposing new duties on local agencies with regard

to implementing the bill. The bill would specify related matters.

(2) The act exempts from its provisions administrative burning, as defined, that is conducted as specified.

This bill would revise the definition of administrative burning to include the burning of vegetative materials on rice research facilities authorized by the county agricultural commissioner, not to exceed 2,000 acres.

(3) The bill would require the State Air Resources Board to administer a demonstration program for the development of new rice straw technologies through the awarding of grants.

(4) Existing law establishes the California Pollution Control Financing Authority, with specified powers and duties, and specifies which projects may be considered for financing.

This bill would include projects for the disposal of agricultural waste within that provision and would make related changes.

(5) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for specified reasons.

SECTION 1. Chapter 4.5 (commencing with Section 39750) is added to Part 2 of Division 26 of the Health and Safety Code, to read:

CHAPTER 4.5. RICE STRAW DEMONSTRATION PROJECT

39750. The Legislature hereby finds and declares that the Connelly-Areias-Chandler Rice Straw Burning Reduction Act was enacted in 1991 to phase down rice straw burning and improve the air quality for the citizens of the state. This creates an additional significant cost to rice growers, with potential adverse impacts on the farming communities, including lost farm production; lost state, local, and federal tax revenues; lost jobs; and reduction of wildlife habitat in the rice fields. The commercial technologies that could utilize straw, making it a commodity rather than a waste disposal problem, have not developed in the rice growing areas because of the lack of marketplace risk capital to take technologies from the laboratory stage to demonstration projects. To retain the

public benefits from having a viable rice growing industry in California and to improve air quality, there is a need to provide cost-sharing grants for the development of demonstration projects for new rice straw technologies in the marketplace.

39751. The Rice Straw Demonstration Project Fund is hereby created in the State Treasury. The fund shall be administered by the state board for the purpose of developing demonstration projects for new rice straw technologies in the rice straw growing regions of California.

39752. The state board shall provide cost-sharing grants for the development of demonstration projects for new rice straw technologies according to criteria developed by the state board, in consultation with the University of California, the Trade and Commerce Agency, and the Department of Food and Agriculture, and adopted at a noticed public hearing held by the state board. The criteria shall include, but shall not be limited to, all of the following:

(a) Proposed projects shall use a technology that could use significant volumes of rice straw annually if it is commercialized, based upon such factors as potential markets and viability of the technology in meeting market demands.

(b) The state board shall provide not more than 50 percent of the cost for each demonstration project.

(c) Public and private support shall be demonstrated for proposed projects, including local community support from the rice growing community where the project would be located.

(d) The grants shall be authorized and allocated during the 1997-98 and 1998-99 fiscal years. Grants may be expended, under the grant agreement, during a period not to exceed three years from the date that the grant is awarded.

(e) Preference shall be given to projects located within the rice growing regions of the Sacramento Valley and which may be replicated throughout the region.

(f) Projects should demonstrate technical and economic feasibility.

39753. It is the intent of the Legislature that funding for purposes of this chapter be provided in the annual Budget Act. The state board may use not more than 10 percent of the rice straw technology demonstration cost-sharing funds for administrative and project review costs in carrying out the grant program.

SEC. 2. Section 41865 of the Health and Safety Code is amended to read:

41865. (a) This section shall be known, and may be cited, as the Connelly-Areias-Chandler Rice Straw Burning Reduction Act of 1991.

(b) As used in this section:

(1) "Sacramento Valley Air Basin" means the area designated by the state board pursuant to Section 39606.

(2) "Air pollution control council" means the Sacramento Valley Basinwide Air Pollution Control Council authorized pursuant to Section 40900.

(3) "Conditional rice straw burning permit" means a permit to burn granted pursuant to subdivisions (f) and (h).

(4) "Allowable acres to be burned" means the number of acres that may be burned pursuant to subdivision (c).

(5) "Department" means the Department of Food and Agriculture.

(6) "Maximum fall burn acres" means the maximum amount of rice acreage that may be burned from September 1 to December 31, inclusive, of each year.

(7) "Maximum spring burn acres" means the maximum amount of rice acreage that may be burned from January 1 to May 31 of the following year, inclusive.

(c) Notwithstanding Section 41850, rice straw burning in counties in the Sacramento Valley Air Basin shall be phased down, as follows:

(1) From 1998 to 2000, the maximum spring and fall burn acres shall be the following number of acres planted prior to September 1 of each year:

Year	Maximum Fall Burn Acres	Maximum Spring Burn Acres
1998	90,000	110,000
1999	90,000	110,000
2000	90,000	110,000

(2) Notwithstanding paragraph (1), any of the 90,000 acres allocated in the fall that are not burned may be added to the maximum spring burn acres, provided that the maximum spring burn acres does not exceed 160,000 acres.

(3) Notwithstanding paragraph (1), the maximum acres burned between January 1, 1998, and August 31, 1998, shall be limited so that the total acres burned between September 1, 1997, and August 31, 1998, do not exceed 38 percent of the total acres

planted prior to September 1, 1997.

(4) In 2001 and thereafter, the maximum annual burn acres shall be the number of acres prescribed in subdivision (i), subject to subdivisions (f) and (h).

(d) The number of allowable acres to be burned each day shall be determined by the state board and the air pollution control officers in the Sacramento Valley Air Basin and equitably allocated among rice growers in accordance with the annual agricultural burning plan adopted by the air pollution control council and approved by the state board.

(e) On or before September 1, 2000, the state board, in consultation with the department and the air pollution control council, shall adopt regulations consistent with the criteria provided in subdivisions (f) and (h). On or before September 1, 1996, an advisory group shall be established by the state board and the department to assist in the adoption of those regulations.

(f) Commencing September 1, 2001, the county air pollution control officers in the Sacramento Valley Air Basin may grant conditional rice straw burning permits once the county agricultural commissioner has determined that the applicant has met the conditions specified in subdivision (h). The county agricultural commissioner shall be responsible for all field inspections associated with the issuance of conditional rice straw burning permits. A conditional rice straw burning permit shall be valid for only one burn, per field, per year.

(g) The county agricultural commissioner may charge the applicant a fee not to exceed the costs incurred by the county agricultural commissioner in making the determination specified in subdivision (f). This subdivision shall be operative only until January 1, 2009.

(h) If the terms and conditions for issuing conditional rice straw burning permits specified in paragraphs (1) to (4), inclusive, are met, a conditional rice straw burning permit may be issued unless the state board and the department have jointly determined, based upon an annual review process, that there are other economically and technically feasible alternative means of eliminating the disease that are not substantially more costly to the applicant. The terms and conditions for issuing the conditional rice straw burning permits are:

(1) The fields to be burned are specifically described.

(2) The applicant has not violated any provision of this section within the previous three years.

(3) During the growing season, the county agricultural

commissioner has independently determined the significant presence of a pathogen in an amount sufficient to constitute a rice disease such as stem rot.

(4) The county agricultural commissioner makes a finding that the existence of the pathogen as identified in paragraph (3) will likely cause a significant, quantifiable reduction in yield in the field to be burned during the current or next growing season. The findings of the county agricultural commissioner shall be based on recommendations adopted by the advisory group established pursuant to subdivision (e).

(i) (1) The maximum annual number of acres burned in the Sacramento Valley Air Basin pursuant to paragraph (3) of subdivision (c) shall be the lesser of:

(A) The total of 25 percent of each individual applicant's planted acres that year.

(B) A total of 125,000 acres planted in the Sacramento Valley Air Basin.

(2) Each grower shall be eligible to burn up to 25 percent of the grower's planted acres, as determined by the air pollution control officers in the Sacramento Valley Air Basin and subject to the maximum annual number of acres burned set forth in paragraph (1), if the grower has met the criteria for a conditional rice straw burning permit.

(3) The air pollution control council shall annually determine which is the lesser of subparagraphs (A) and (B) of paragraph (1), and shall determine the maximum percentage applicable to all growers subject to the conditions set forth in subdivisions (f) and (h).

(4) A grower who owns or operates 400 acres or less who has met the criteria for the issuance of a conditional rice straw burning permit may burn his or her entire acreage once every four years, provided that the limit prescribed in paragraph (1) is not exceeded.

(5) Nothing in this subdivision shall permit an applicant to transfer, sell, or trade any permission to burn granted pursuant to this subdivision to another applicant or individual.

(j) The state board and the department shall jointly determine if the allowable acres to be burned, as provided in subdivisions (c), (f), and (h), may be exceeded due to extraordinary circumstances, such as an act of God, that have an impact over a continuing duration and make alternatives other than burning unusable.

(k) "Administrative burning" means burning of vegetative materials along roads, in ditches, and on levees adjacent to or

within a rice field, or the burning of vegetative materials on rice research facilities authorized by the county agricultural commissioner, not to exceed 2,000 acres. Administrative burning conducted in accordance with Section 41852 is not subject to this section.

(l) (1) On or before September 1, 1992, the state board and the department shall jointly establish an advisory committee composed of 10 members to assist with the identification and implementation of alternatives to rice straw burning. Members of the committee shall be from the Sacramento Valley Air Basin, and the committee shall consist of two rice growers, two representatives from the environmental community, two health officials, two county supervisors or their designees, one member from the air pollution control council, and one member from the business community with expertise in market or product development. The committee shall meet at least annually. General Fund moneys shall not be used to support the committee.

(2) The committee shall develop a list of priority goals for the development of alternative uses of rice straw for the purpose of developing feasible and cost-effective alternatives to rice straw burning. These goals shall include, but not be limited to, research on alternatives, economic incentives to encourage alternative uses, and new product development.

(m) On or before September 1, 1998, the state board, in consultation with the department, the advisory committee, and the Department of Commerce, shall develop an implementation plan and a schedule to achieve diversion of not less than 50 percent of rice straw produced toward off-field uses by 2000. Off-field uses may include, but are not limited to, the production of energy and fuels, construction materials, pulp and paper, and livestock feed.

(n) On or before September 1, 1999, the state board and the department shall jointly report to the Legislature on the progress of the phasedown of, and the identification and implementation of alternatives to, rice straw burning. This report shall include an economic and environmental assessment, the status of feasible and cost-effective alternatives to rice straw burning, recommendations from the advisory committee on the development of alternatives to rice straw burning, the status of the implementation plan and the schedule required by subdivision (m), progress toward achieving the 50 percent diversion goal, any recommended changes to this section, and other issues related to this section. The report shall be

updated biennially and transmitted to the Legislature not later than September 1 of each odd-numbered year. The state board may adjust the district burn permit fees specified in subdivision (s) to pay for the preparation of the report and its updates. The districts shall collect and remit the adjustment to the state board, which shall deposit the fees in the Motor Vehicle Account in the State Transportation Fund. It shall be the goal of the state board and the department that the cost of the report and its updates shall not exceed fifty thousand dollars ($50,000).

(o) The state board and the California Department of Food and Agriculture shall jointly collect and analyze all available data relevant to the air quality and public health impacts and, to the extent feasible, the economic impacts, that may be associated with the burning of rice straw pursuant to the schedule provided in subparagraph (1) of subdivision (c). On or before July 1, 2001, the state board shall submit a report to the Legislature presenting its findings regarding the air quality, public health, and economic impacts associated with the burning of rice straw pursuant to the schedule provided in paragraph (1) of subdivision (c).

(p) The Legislature hereby finds and declares as follows:

(1) Because of the requirements imposed by this section, rice straw that was previously burned may present, as solid waste, a new disposal problem.

(2) The state should assist local governments and growers in diverting rice straw from landfills by researching and developing diversion options.

(q) It is the intent of the Legislature that all feasible alternatives to rice straw burning and options for diverting rice straw from landfills be encouraged.

(r) This subdivision confirms that reductions in emissions from rice straw burning qualify for air quality offsets, in accordance with paragraphs (1) and (2).

(1) These credits shall meet the requirements specified in state law and district rules and regulations, and shall comply with applicable district banking rules established pursuant to Sections 40709 to 40713, inclusive. Districts are urged to establish banking systems in accordance with Sections 40709 to 40713, inclusive. The state board may adopt regulations to implement this subdivision, including, but not limited to, consideration of the seasonal and intermittent nature of rice straw burning emissions. In developing the regulations, the state board shall consult with all concerned parties. However,

emission reduction credits that would otherwise accrue from reductions in emissions from rice straw burning shall not be affected or negated by the phasedown of burning, as specified in subdivision (c).

(2) Reductions in emissions achieved in compliance with subdivision (c) that are banked or used as credits shall not be credited for purposes of attainment planning and progress towards the attainment of any state or national ambient air quality standard as required by state and federal law.

(s) (1) Any person who negligently or intentionally violates any provision of this article is guilty of a misdemeanor and is subject to a fine of not more than ten thousand dollars ($10,000), imprisonment in the county jail for not more than nine months, or by both that fine and imprisonment. This subdivision applies only to agricultural burning in the Sacramento Valley Air Basin.

(2) Any person who negligently or intentionally violates any provision in this article is liable for a civil penalty of not more than ten thousand dollars ($10,000). This subdivision applies only to agricultural burning in the Sacramento Valley Air Basin.

(t) Districts in the Sacramento Valley Air Basin shall impose fees on growers to cover the cost of implementing this section pursuant to Section 42311.

(u) To the extent that resources are available, the state board and the agencies with jurisdiction over air quality within the Sacramento Valley Air Basin shall do both of the following:

(1) Improve responses to citizen complaints, and, to the extent feasible, immediately investigate and analyze smoke complaints from the public to identify factors that contribute to complaints and to develop better smoke control measures to be included in the agricultural burning plan, keep a record of all complaints, coordinate among other agencies on citizens' complaints, and investigate the source of the pollution causing the complaint.

(2) Respond more quickly to requests for update from county air pollution control officers to help maximize burning days when meteorological conditions are best suited for smoke dispersion.

SEC. 3. Section 44535 of the Health and Safety Code is amended to read:

44535. (a) The authority may separately approve financing for projects, the purpose of which is to prevent or reduce

environmental pollution resulting from the disposal of solid or liquid waste.

(b) The following projects shall be considered for financing:

(1) Projects utilizing recognized resource recovery or energy conversion processes.

(2) Projects utilizing new technologies or processes for resource recovery or energy conversion.

(3) Projects utilizing technologies designed to reduce the level of pollutants found in water.

(4) Recycled water facilities.

(5) Water main replacements.

(6) Water filtration facilities.

(7) Projects for the disposal of agricultural wastes.

(8) Other projects for the reduction of environmental pollution resulting from the disposal of solid or liquid waste.

(c) The projects specified in subdivision (b) may include elements that provide for new refuse removal vehicles, transfer stations, resource recovery or energy conversion plants, source separation, or any solid or liquid waste disposal facilities involved in resource recovery systems. "Solid or liquid waste disposal facilities" means any property, or portion thereof, used for the collection, storage, treatment, utilization, processing, or final disposal of solid or liquid waste in resource recovery systems.

SEC. 4. Section 44537.5 of the Health and Safety Code is amended to read:

44537.5. The authority shall provide the maximum opportunity for the use of the authority's financing by individuals, businesses engaged in agricultural operations, and small businesses or corporations by providing information, assistance, and coordination to facilitate financing for small projects and other financing that benefits the environment, including financing for projects for the disposal of agricultural wastes, with special attention to the needs of businesses that do not meet standard commercial lending requirements but provide public benefits, such as job creation or retention.

SEC. 5. No reimbursement is required by this act pursuant to Section 6 of Article XIIIB of the California Constitution for certain costs that will be incurred by a local agency or school district because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the

Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIIIB of the California Constitution.

Moreover, no reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution for certain other costs that will be incurred because a local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act, within the meaning of Section 17556 of the Government Code.

Notwithstanding Section 17580 of the Government Code, unless otherwise specified, the provisions of this act shall become operative on the same date that the act takes effect pursuant to the California Constitution.

Searching keywords: (statusch) (authorThompson) (HooS)

APPENDIX B

REPORT TO THE LEGISLATURE
RICE STRAW UTILIZATION TAX CREDIT PROGRAM

Report to the Legislature
Rice Straw Utilization Tax Credit Program
California Department of Food and Agriculture
June 1, 1998

The Rice Straw Utilization Tax Credit Program was established by SB 38 (Lockyer, Ch 954, 1996) as Section 17052.10 of the State Revenue and Taxation Code. The law provides that for each taxable year beginning on or after January 1, 1997, and before January 1, 2008, there shall be allowed as a credit against the amount of "net tax," as defined (California state income tax), the amount of $15 per ton of rice straw that is grown within California and purchased during the taxable year by the taxpayer. The taxpayer must be the "end user" of the rice straw, meaning anyone who uses the rice straw for any purpose, including but not limited to processing, generation of energy, manufacturing, export, or prevention of erosion, exclusive of open burning, that consumes the rice straw. The taxpayer cannot be related, under the Internal Revenue Code to any person who grew the rice straw within California. The law limits the aggregate amount of the tax credit to $400,000 for each calendar year. In cases where the tax credit exceeds the "net tax," the excess may be carried over to reduce the "net tax" for the next ten taxable years, or until the credit has been exhausted, which ever comes first.

Under the law, the California Department of Food and Agriculture (CDFA) must:
- certify that a taxpayer has purchased rice straw during the specified taxable year,
- issue certificates to qualified taxpayers on a first-come, first-served basis,
- provide an annual listing to the Franchise Tax Board,
- provide the taxpayer with a copy of the certification,
- obtain the taxpayer's identification number, and
- provide an annual informational report to the Legislature.

Background:
The Connelly-Areias-Chandler Rice Straw Burning Reduction Act of 1991 (AB 1378, Ch 787, 1991) mandated the phase down of open field rice straw burning by 1998. The phase down period was recently extended until 2000 (Thompson, SB 318, Ch 745, 1996) due in part to the recognition that alternative straw management options were costly and slow to develop. Furthermore, soil incorporation of straw, the only widely available management option, continues to cause adverse effects to rice farming operations including but not limited to increased costs, increased incidence of disease and weeds, and other land and irrigation management problems.

The Legislature, recognizing the need for incentives to speed the development of off-field uses of rice straw, established the tax credit as one incentive. The $400,000 annual tax credit represents 26,667 tons of rice straw, or about 9,000 to 13,000 acres. Last year, about 485,000 acres of rice was planted in the Sacramento Valley.

Program Status:
Last year, 1997, was the first year of the program. Nearly one hundred fifty telephone, written and faxed inquiries were received and responded to by the Department. Applications for the tax credit were accepted on a first-come, first-served basis starting on September 2, 1997 at 8:00 am at the CDFA headquarters in Sacramento. To date 35 applications have been received, requesting $468,459 in tax credits for purchase of 31,230.6 tons of rice straw. CDFA approved 28 applications totaling $90,506 in tax credits for purchase of 6,033.7 tons of rice straw. Please see Table 1.

Table 1: Program Summary

Requests	**Number**	**Tons**	**Tax Credit ($)**
Total	35	31,230.6	$468,459
Certificates Issued	28	6,033.7	$ 90,506
Denied	7	25,196.9	$377,953

Of the seven applications denied, four did not adequately document purchase, while three purchased straw in other years, but did not purchase the straw in 1997. Those that documented purchases in 1998 will be able to apply for the tax credit under the program next year, if they so chose. Several of these applications were from companies anticipating start up of new straw processing facilities that did not materialize. As such, they did not exercise their intent to purchase rice straw, and thus did not in fact purchase rice straw. Thus, they did not qualify for the tax credit and their applications were denied. Three of these applications represented 25,000 tons of rice straw.

Of the 27 applications approved, 18 were dairies, four were manufacturing companies, three were other livestock operations, two were private home builders, and one was a landscaping contractor. The primary uses of the rice straw were for animal bedding, animal feed, erosion control, straw bale construction, and compost/fertilizer manufacturing. Please see Table 2 and Table 3.

Table 2: Types of Businesses

Business	**Number**	**Tons**	**Tax Credit ($)**
Dairy	19	3,336.6	$50,049.00
Cattle	3	939.9	$14,098.50
Landscape Contractor	1	49	$ 735.00
Compost/Fertilizer Mfg.	1	1,263.7	$18,955.50
Feed Manufacturer	1	336.3	$5,044.50
Erosion Control Mfg.	1	58.5	$ 877.50
Owner/builder	2	49.7	$ 745.50
TOTAL	28	6,033.7	$90,506

Table 3: Methods of Use

Method	Number*	Tons*
Animal bedding	18	2966.7
Feed	6	2,501.5
Compost/fertilizer	1	1,263.7
Building construction (bales)	2	49.7
Erosion control	3	460.2
TOTAL	30	7,241.8

*Two certified applicants used the straw for multiple purposes (feed/bedding, and erosion control/bedding). Thus, 1,208.1 tons of straw is double counted.

The Department has prepared an annual listing of the qualified taxpayers who were issued certificates and the amount of rice straw purchased by each taxpayer and provided it to the Franchise Tax Board on computer readable form and in the manner prescribed by the Board.

The Department will announce the 1998 Rice Straw Utilization Tax Credit Program in August, 1998, before rice harvest begins. The Department anticipates accepting applications for the 1998 tax credit on a first-come, first-served basis in late November or early December, 1998.

Conclusions and Recommendations:

Industry experts and the University of California, Department of Agricultural and Biological Engineering estimate that no more than 40,000 tons of rice straw were harvested in 1997. Most probably, that figure does not exceed 20,000 tons. Thus, about 30% of the harvested rice straw was purchased under the tax credit. Currently the potential for harvesting rice straw is limited by equipment availability and, during this past year, weather.

Although the rice straw utilization tax credit is limited in scope compared to the available resource, it is not yet limited when compared to the current market for the resource or the ability to harvest the resource. There is no existing large market for rice straw that can take full advantage of the tax credit. The dairy industry seems to be in the best position to claim the tax credit. In this situation, the tax credit serves to offset the transportation costs associated with hauling the straw from the Sacramento Valley rice production region to dairies in the San Joaquin Valley. It is anticipated that many more dairy operators will take advantage of the tax credit in the coming years.

A successful startup of a commercial straw processing facility could change the dynamics of the program drastically. Any such facility that processes straw to straw board, fiber board, feed, ethanol fuel, electricity, erosion control materials, pulp or paper, or other products at a commercial scale would easily consume the amount of straw each year that would be eligible for the tax credit. At this point in the development of these projects, project financing and straw

handling infrastructure and logistics are more formidable barriers than the cost of rice straw. This is not to say that rice straw costs, and thus, the incentive provided by the tax credit is not important. An assured reduction in the straw acquisition cost that can be provided by the tax credit, can make some straw processing projects more attractive to potential investors.

As demand for the tax credit increases, and economic and environmental benefits of off-field rice straw utilization are documented, the Legislature may want to consider expanding the program by lifting the annual $400,000 cap in order to attract larger and more diverse projects.

The CDFA has also received comments concerning the equity of the "first-come, first-served" provision, since conceivably, one entity could use the entire credit. Some have suggested that a cap of $1,000 to $4,000 be established for individual applications.

If the tax credit provides little incentive to new, startup processing facilities, the Legislature may want to consider a tax credit purchase or trading program that would allow new straw utilization projects with little or no California income tax liability to sell their tax credits to a profitable entity that could take advantage of the tax credit. The CDFA has received several inquiries and suggestions in this regard.

Several members of the rice industry have suggested that the unused tax credit from each year be dedicated to other activities that support off-field utilization of rice straw. Such activities may include but not be limited to development of rice straw harvest and storage infrastructure, market development and expansion for rice straw based products, and support for those potential utilization technologies not supported through other programs.

Attachment:
1997 Summary Table

1997 Summary
Rice Straw Utilization Tax Credit Program
California Department of Food and Agriculture

Type of Business	Use	Tons	$ Credit $
Dairy	Animal Bedding	87	$1,305.00
Dairy	Animal Bedding	19.27	$289.05
Dairy	Animal Bedding	15.1	226.5
Owner/Builder	Building Construction	4	$60.00
Cattle	Livestock Feed	9	$135.00
Dairy	Animal Bedding	199.75	$2,996.25
Hydroseeding Contractor	Erosion Control	49	$735.00
Dairy	Animal Bedding	159.11	$2,386.65
Dairy	Animal Bedding	65.04	$975.60
Manufacturer	Compost/Fertilizer	1,263.75	$18,956.25
Dairy	Animal Bedding	159.82	$2,397.30
Dairy	Animal Bedding	300	$4,500.00
Dairy	Animal Bedding	181.615	$2,724.23
Dairy	Animal Bedding Livestock Feed	855.18	$12,827.70
Manufacturer	Erosion Control Blankets	58.48	$877.20
Owner/Builder	Building Construction	45.7	$685.50
Dairy	Animal Bedding	43.34	$650.10
Dairy	Animal Bedding	43.02	$645.30
Dairy	Livestock Feed	25.87	$388.05
Dairy	Animal Bedding Erosion Control	352.74	$5,291.10
Manufacturer	Livestock Feed	336.285	$5,044.28
Dairy	Animal Bedding	40.075	$601.13
Dairy	Animal Bedding	79.28	$1,189.20
Dairy	Animal Bedding	119.79	$1,796.85
Dairy	Animal Bedding	200	$3,000.00
Dairy	Animal Bedding	46.54	$698.10
Dairy	Livestock Feed	370	$5,550.00
Cattle	Livestock Feed	905.2	$13,578.00
TOTAL		**6,033.955**	**$90,509.34**

APPENDIX C

RICE FUND PROPOSED GRANT AWARDS FOR FISCAL YEAR 1997-98

THE RICE STRAW DEMONSTRATION PROJECT FUND

Proposed Grant Awards

For Fiscal Year 1997-98

Presented for the California Air Resources Board's Consideration
May 21, 1998

Introduction

Senate Bill 318 (1997, Thompson) created the Rice Straw Demonstration Project Fund (the Rice Fund) and directed the California Air Resources Board to administer it. The goal of the Rice Fund is to help create a market for Sacramento Valley rice straw by providing cost-sharing grants for projects which show the greatest potentials for becoming commercially self-sustaining users of rice straw.

Twelve grant requests were received for fiscal year 1997-98 funding. Grant requests were evaluated by expert reviewers using the funding criteria (see page 2) adopted by the Board at its January 29, 1998, public meeting. The review panel consisted of four business experts, three technology experts, and three rice straw experts.

Based on the results of the review process, staff is recommending to the Board that the following three projects be awarded grants:

> *"Preprocessing of Rice Straw for Multiple Products"* by Anderson Hay & Grain Co., Inc. for $500,000;
>
> *"Bioboard Plant for Colusa, California"* by FiberTech USA, Inc. for $750,000;
>
> *"Production of Fermented Animal Feeds from Sacramento Valley Rice Straw: Prototype and Commercial Pilot"* by MBI International for $820,000.

Brief project descriptions and evaluation summaries are presented for these three projects.

For fiscal year 1997-98, $2.5 million was appropriated to the Rice Fund. The law specifies that this amount be reduced by the total amount that state agencies other than the State Air Resources Board expend for research, development, or demonstration projects on alternative uses of rice straw during the 1997-98 fiscal year. The Director of Finance determined that this fiscal year's funding be reduced by $200,000 due to the California Energy Commission's expenditure for the Energy Efficient Rice Straw Disposal Demonstration Program. After deducting this $200,000 plus $230,000 for administrative costs, $2.07 million remains available for grant awards. This is the total amount being recommended for this fiscal year's grants.

Funding Criteria Used to Evaluate Rice Fund Grant Requests

Grant requests were evaluated using the criteria given below, which were adopted by the Air Resources Board at its January 29, 1998, public meeting.

Technical Plan Review:

- Viable technology for utilization of rice straw
- Reasonable and complete project
- Stage of technology development
- Technical competency of project team

Business Plan Review:

- Business merit and commercialization plan
- Straw supply plan
- Financial support and credit integrity
- Business competency of project team

Program Goals Satisfaction:

- Potential quantity of rice straw to be used annually
- Length of time to self-sustaining operation
- Project location and replication potential
- Local community support

Policy Assessment:

- Policy Assessment
- Environmental Effects

Title: ***"Preprocessing of Rice Straw for Multiple Products"***

Applicant: Anderson Hay & Grain Co., Inc. **Grant Amount: $500,000**

Straw used after 5 years: 205,000 tons per year **Project time: 3 years**

Background

In recent years, only about 8,800 tons of rice straw per year have been used off-field. If the goal of the Rice Fund, which is to help create a market for straw, is realized, vast quantities of straw will need to be handled, that is, harvested during a short time, baled, transported, and stored. For these reasons, the Rice Fund Program Description and Invitation for Grant Requests specified that straw handling projects were being sought.

Proposal Summary

Anderson Hay & Grain proposes to develop the infrastructure necessary for handling vast quantities of rice straw by using their extensive experience in establishing such an infrastructure for grass straw in Oregon. Anderson also proposes to use rice straw to make erosion control blankets; to develop business and fumigation protocols to export rice straw for use as livestock feed in Asia; to develop the preprocessing methodologies to prepare rice straw for paper and board applications; and to identify potentially large-scale users of rice straw based on the premise that preprocessed straw would be more efficient to use for commercial-scale applications. Anderson's executive summary of its proposed project is on page 4.

Evaluation Summary

Reviewers noted the Anderson project team's excellent technical and business competency and directly related experience with similar projects using various kinds of grasses. Anderson was judged to have the soundest financial capability and integrity and extensive business and technical experience in all project areas.

Besides taking responsibility for developing the much needed straw infrastructure, this project will seek to export large quantities of rice straw to Asian countries as cattle feed. Anderson currently exports other straws to Asia and is in a good position to develop the needed protocols for opening up vast markets for rice straw in Asia.

The Anderson team has stated that they would work with Sacramento Valley rice growers to make their project a mutually beneficial enterprise. Anderson is a well-established and well-funded company with an established track record. Anderson plans to commit $750,000 to the project. Staff recommends that Anderson be awarded a grant of $500,000.

Preprocessing of Rice Straw for Multiple Products Project

EXECUTIVE SUMMARY
Provided by Anderson Hay & Grain Co., Inc

Anderson Hay & Grain Co., Inc has made a good-faith effort to develop the following Rice Straw Demonstration Project Fund Grant Request within the short time period provided for applicants to develop projects. Anderson Hay & Grain Co., Inc. believes that its management team, and the Project Team assembled for this Project, have the capabilities to accomplish what has been set out in the following Grant Request. However, Anderson Hay & Grain Co., Inc. hopes that the California Air Resources Board, and its Technical Support Division staff, realize that any number of things completely beyond the control of Anderson Hay & Grain Co., Inc. may materially affect Anderson's ability to meet its goals in one or more of the following endeavors.

The Applicant for the Preprocessing of Rice Straw for Multiple Products Project is Anderson Hay & Grain Co., Inc. of Ellensburg, Washington. The Project seeks to determine if by preprocessing Sacramento Valley rice straw, can sufficient value be added to make it attractive for multiple products produced by commercial scale end users. The Project Objectives are 1) to determine if the necessary infrastructure can be developed to gather, bale, handle, transport and store significant quantities of the rice straw; 2) to run a series of tests to determine if rice straw can be preprocessed into a form more suitable for domestic and world feed markets, and more readily usable by multiple commercial scale end users; this second phase will determine if adding value through preprocessing the rice straw helps to create multiple uses on a commercial scale, especially if the straw can be preprocessed to predetermined specifications set by an end user; and 3) the Project will identify potential large scale users of rice straw based on the premise that since the straw has been converted into a more usable form, it will be easier and more efficient to use for commercial scale applications. The Applicant and its partners have conducted previous work in all three areas. The implementation of the Project could create as many as 175 full-time jobs and 183 seasonal jobs in the Sacramento Valley. By the end of the three years during the Rice Fund grant proposal funding period, the Project could use 8,000 tons of rice straw on an annual basis; three years after the end of the Rice Fund grant proposal funding period, up to 221,000 tons of rice straw could be used.

Anderson Hay & Grain Co., Inc. is requesting $500,000 in matching funds from monies appropriated to the 1998 Rice Straw Demonstration Project Fund despite the total estimated amount of Project investment required of the Preprocessing of Rice Straw for Multiple Products Project if all products are developed in the manner set out in this proposal. Anderson is willing to invest up to $750,000 to determine if the Project is feasible. Anderson has made a good-faith effort to develop the following estimated total Project Budget within the short time period provided for applicants to develop projects. Anderson intends to lease the majority of the assets shown in the following Project Budgets. However if Anderson were to build and/or develop all of the necessary Project facilities the total estimated Project Budget for all facilities is an estimated $42.5 million. **Anderson is not making a commitment to expend $42.5 million in exchange**

for a $500,000 grant from the Rice Fund. In addition, the estimated annual operating budget for each year is included. The annual operating budget assumes the fixed assets are leased by Anderson. (These Project Budget figures were developed primarily as a result of work completed on a confidential client's related project.)

Title: ***"Bioboard Plant for Colusa, California"***

Applicant: FiberTech **Grant Amount: $750,000**

Straw used after 5 years: 125,000 to 200,000 tons per year **Project time: 9 months**

Proposal Summary

FiberTech plans to install a manufacturing line to make particle board out of rice straw. The *Bioboard* would be used in the same applications as wood-based particle board, but FiberTech plans to target niche markets. FiberTech already has a 14,000 square foot facility and eight acres of straw storage in the Colusa Industrial Park. FiberTech plans to be in production during the 4th quarter of 1998 and expects to be commercially viable within six months after start-up. This first facility is projected to use between 25,000 and 40,000 tons of rice straw annually; several more facilities are planned in the future. FiberTech's executive summary of its proposed project is on page 7.

Evaluation Summary

This project has the potential to use significant amounts of rice straw in the near-term (in approximately nine months). The product's mainstream appearance and similarity to wood-based particle board with widely accepted applications should make it easier for FiberTech to enter this large market. The marketing strategy of focusing on customized services and niche markets appears sound.

FiberTech has already made significant investments of time and money into the project. Subject to FiberTech's receipt of this Rice Fund grant, outside investment sources would fill FiberTech's remaining start-up capital needs. The grant would trigger the purchase of the needed manufacturing equipment and the hiring of the manufacturing plant manager considered critical to the success of the project. FiberTech has also already demonstrated its ability to procure, store, and handle significant quantities of straw. It has strong community support.

FiberTech plans to commit its existing facility and $839,000 in corporate and borrowed funds. Staff recommends that FiberTech be awarded a grant of $750,000.

Bioboard Plant for Colusa, CA

EXECUTIVE SUMMARY
Provided by FiberTech USA, Inc.

FiberTech USA, Inc. is an applicant for funds from the Air Resources Board's Rice Straw Demonstration Project Fund. FiberTech plans to install a manufacturing line in its facility in Colusa, CA to make particleboard out of rice straw.

FiberTech USA, Inc. has been active in the Sacramento Valley since 1995. It presently has a facility in Colusa, California in which it plans to produce Bioboard . Bioboard is a rice straw particleboard which will be used in the same applications as wood-based particleboard. Bioboard should be equivalent or superior in performance compared to wood-based particleboard.

FiberTech estimates that the project will take 9 months to be commercially self-sustaining. The company plans to be in production during the 4th quarter of 1998. FiberTech plans to be commercially viable roughly within 6 months after start up.

FiberTech's facility is located in the Colusa Industrial Park in Colusa, California. The site includes space for the manufacturing facility and for the storage of rice straw. The manufacturing facility is over 14,000 sq. ft. including offices. There are roughly 8 acres of all weather access storage area for rice straw with room for more. Once in operation, this facility will create between 14 and 20 full time jobs. This facility alone can use between 25,000 and 40,000 tons of rice straw annually.

According to the guidelines of the application, the projected project costs over the 9 months of grant disbursement FiberTech is requesting should be $1,588,740. FiberTech is requesting a grant of $750,000. Much of this money will be used to collect and store rice straw at its facility. The rice straw will be collected during the fall of 1998.

Title: ***"Production of Fermented Animal Feeds from Sacramento Valley Rice Straw: Prototype and Commercial Pilot"***

Applicant: MBI International **Grant Amount: $820,000**

Straw used after 5 years: 165,000 to 330,000 tons per year **Project time: 1 year**

Commercialization: 2002-2003

Applicant Background

MBI is a non-profit, technology and business development company focusing on creating industrial products from agricultural resources. MBI was formed in 1981 as the Molecular Biology Institute at the recommendation of Michigan's Task Force on High Technology. It has an established track record in not only research and development, but in the management of business commercialization through its for-profit subsidiary, Grand River Technologies, Inc.

Proposal Summary

MBI proposes to process rice straw into a high-value animal feed for domestic dairy and beef cattle. The new feed is expected to provide 90-95 percent of the energy value of feed corn at 50-70 percent of the cost of similar feeds that are now on the market. MBI's technology is based upon MBI's proprietary Ammonia Fiber Explosion (AFEX) and fermentation technologies. The value added to the rice straw as a result of the processing MBI proposes includes enhanced digestibility and added food value. MBI proposes to build a mobile pilot plant, optimize the straw conversion process, perform live animal feeding trials, and produce the engineering plans for the first full-scale production facility. If commercial operation is feasible, MBI proposes that several plants be established which would consume up to 330,000 tons of straw per year. MBI's executive summary of its proposed project is on page 10.

Evaluation Summary

MBI has demonstrated significant commitment to see the project through to the development of a full-scale production facility. The project team has strong technology credentials, and the proposal demonstrated a good understanding of the technical gaps that need to be bridged for the project to succeed. The product will be priced low enough to allow easy entry into a market that currently relies heavily on out-of-state imports.

Financial support of this project is also being provided by the U. S. Department of Agriculture (USDA), the U. S. Environmental Protection Agency, and the U. S. Department of Energy. For the feeding trials, MBI has enlisted the collaboration of the following: Agricultural Research Service of the USDA; Michigan State University, Department of Chemical Engineering; Texas A & M University, Department of Animal Science; University of California, Davis, California Institute of Food and Agricultural Research; and Harris Ranch Beef Company in Selma, California.

MBI's grant request was for $1.5 million. Staff recommends reduced funding at $820,000, for which the applicant has rescoped the project plan. MBI plans to commit $328,000 of its own money for this project. If this project succeeds in its goals, considerable quantities of rice straw would be used.

Production of Fermented Animal Feeds From Sacramento Valley Rice Straw: Prototype and Commercial Pilot, MBI International, Lansing, Michigan

EXECUTIVE SUMMARY
Provided by MBI International

MBI International (MBI) is working to commercialize the production of a new value-added animal feed for ruminants based upon lignocellulosic material such as Sacramento Valley rice straw. The new feed will provide 90-95% of the energy value of feed corn at roughly 50-70% of the cost. MBI's technology is based upon the proprietary Ammonia Fiber Explosion (AFEX) technology and the proprietary fermentation technology of MBI. This technology is based upon the treatment of lignocellulosic material with liquid ammonia followed by an instantaneous decompression to atmospheric pressure to produce a highly digestible material. This material is then fermented into an animal feed product with the characteristics of other commonly used ruminant feeds and supplements. MBI has expended considerable time and resources to bring this technology to its current point. We are now ready to move forward with a commercial pilot that will prepare us for the first commercial plant in 2002-2003. The first commercial plant is expected to handle 500-1000 dry tons/day, and will operate 330 days per year (165,000-330,000 tons/year). One 500-ton/day plant is expected to create approximately 45 new jobs (direct and indirect). The total cost of the first commercial plant is estimated at $25-35 million. Once the first plant comes on line, additional plants will be constructed and brought on line as demand requires. Under the current RFP, MBI requests $1.5 million in funding from the State of California to be matched by an additional $1.5 million in other funding from MBI and other sources for a total project cost of $3 million.

MBI International proposes a comprehensive, goal-oriented program to construct the first commercial plant to produce high quality ruminant feed from Sacramento Valley rice straw. The proposed project will run from June 1998 - May 1999 and will be accomplished in four primary tasks. First, the project will result in a pilot for the production of a rice straw-based ruminant feed to be located in the Sacramento Valley. Process optimizations will occur at this site and at MBI's facility in Lansing, MI. We are currently discussing possible pilot and production sites with UC-Davis, Colusa and Sutter counties. Second, the feed produced will be tested in live animal feeding trials at the Harris Ranch, UC-Davis, and the USDA National Dairy Forage Laboratory to prove the viability of the feed for both beef and dairy cattle production. Third, the project will produce the preliminary engineering data and drawings required for the first commercial production facility. This work will occur at MBI's facility in Lansing, MI. Fourth, the preliminary site selection will be completed for the first full-scale commercial plant. MBI has assembled a team that possesses the expertise required to complete the commercial requirements by 2002-2003. In the remainder of this proposal, we present the technical introduction necessary to understand the problem, expected benefits, outline of our plan, key personnel, and anticipated level of effort for the proposed program.